

ABSTRACT OF THE DISCLOSURE

A rotating electrical machine for a vehicle includes a stator having a multi-phase armature winding, a rotor having a pair of field cores which rotate together with a rotating shaft, and a field winding for magnetizing the pair of field cores, the pair of field cores respectively includes magnetic poles extending in an axial direction of the rotating shaft and being arranged to alternately engage with each other through a predetermined clearance D_c , each of the magnetic poles having a width in a rotation direction thereof is formed in a stair shape to be smaller toward a tip of the width, and the clearance D_c between adjacent the magnetic poles is set within a range from 50° to 70° in electrical angle. As a result, the rotating electrical machine for a vehicle can be obtained in which exciting force of harmonic components is reduced, electromagnetic noise, torque ripple and the like are effectively suppressed, and the productivity is excellent.